

## ABSTRACT

An optical fiber cable includes an optical fiber ribbon stack having a plurality of optical fibers, and at least one cushion member disposed on outer side surfaces of the optical fiber ribbon stack. The cushion member functions as a spacer and strain energy absorbing member for protecting corner fibers of the optical fiber ribbon stack from bending and contact stresses due to contact with a buffer tube or other surrounding elements. The cushion member may have material characteristics, such as contact hardness and Young's modulus, which are similar to those of the ribbon stack, or which gradually change from a soft inner layer at the side of the cushion member which contacts the ribbon stack to a stiff outer layer at the side of the cushion member which may contact a buffer tube or other surrounding elements. An elastic membrane surrounds the optical fiber ribbon stack and attached cushion member, and a filler material, such as bubbled foam or foamed gel, is disposed in the space between the ribbon stack and the elastic membrane and the space between the elastic membrane and the buffer tube.

TECHNICAL FIELD